

Pain and Opioid Use Among Patients With Kidney Disease

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Disclosures: I have nothing to disclose



Outline:

- 1. Chronic pain epidemiology**
- 2. Commonly used medications for chronic pain and CKD**
- 3. What is the average MME for patients with CKD**
- 4. Diagnosing addiction: aberrant drug related behaviors**
- 5. Evidence based practice for monitoring CDS**
- 6. How Penn State Addresses addiction**

Epidemiology of Chronic Pain

- **Common in people with CKD, ESRD**
- **Untreated, pain can cause**
 - **Poor QOL**
 - **Problems with adherence to dialysis**
 - **Mortality**
 - **Depression**
 - **Anxiety**
 - **Fatigue**



Epidemiology of Chronic Pain

- **Disproportionately high use of opioids**
 - **Lack of availability of non pharmacologic options**
 - **Lack of safe, non-opioid options**
 - **>50% ESRD received an opioid prescription**
 - **3.2x rate of general population**
 - **20% on chronic opioids**
 - **Carry risk of falls, mortality, hospitalizations, AMS**



Non Pharmacologic Approaches

- Behavioral interventions
- Physical Interventions
- Limited studies in individuals with CKD, but positive



Pharmacologic Approaches

- **Non-opioids**
 - **Acetaminophen**
 - No dose adjustment required
 - **NSAIDs**
 - Depends on drug-drug interactions
 - Depends on stage of CKD
 - Small doses, for short periods for CKD I-III
 - None for CKD 5
 - **TOPICAL!**
 - **Muscle relaxants**
 - Short term only, not for chronic pain
 - Avoid in CKD: esp baclofen, can cause neurotoxicity
 - **Cannabis**
 - untested



Pharmacologic Approaches

- **Neuropathic pain**
 - **Gabapentinoids**
 - **Need dose adjustments for CKD, give post HD**
 - **Do not co-prescribe with opioids**
 - **Increased risk of falls, hospitalizations**
 - **TCAs, SNRIs**
 - **Antihistaminic, anticholinergic SE**
 - **Can cause SIADH**



Pharmacologic Approaches

- **Opioids**
 - **Use after all other options tried**
 - **Use sparingly at minimally effective dose**
 - **Establish therapeutic goals**
 - **Start low-dose, immediate release**
 - **Revised Opioid Risk Tool:**



Opioid Risk Tool - Revised (ORT-R)

The revised ORT has clinical usefulness in providing clinicians a simple, validated method to rapidly screen for the risk of developing OUD in patients on or being considered for opioid therapy.

Opioid Risk Tool – OUD (ORT-OUD)

This tool should be administered to patients upon an initial visit prior to beginning or continuing opioid therapy for pain management. A score of 2 or lower indicates low risk for future opioid use disorder; a score of ≥ 3 indicates high risk for opioid use disorder.

Mark Each Box That Applies	Yes	No
Family history of substance abuse		
Alcohol	1	0
Illegal drugs	1	0
Rx drugs	1	0
Personal history of substance abuse		
Alcohol	1	0
Illegal drugs	1	0
Rx drugs	1	0
Age between 16-45 years	1	0
Psychological disease		
ADD, OCD, bipolar, schizophrenia	1	0
Depression	1	0
Scoring total		

Pharmacologic Approaches

- **Opioids**
 - **Monitor!**
 - **Urine Drug screens**
 - **Mouth swabs if anuric**
 - **Medicines that are safer to use:**
 - **Oxycodone**
 - **Fentanyl**
 - **Methadone**
 - **Buprenorphine**
 - **Hydromorphone**

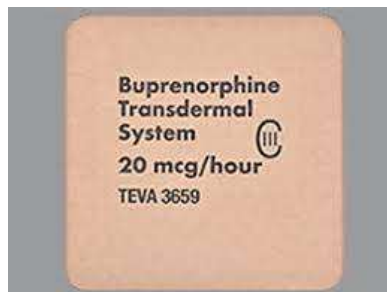
Methadone

- **Analgesic half-life: 6-8 hours**
- **No dose adjustment needed for CKD**
- **Not renally dialyzed**
- **Can prolong QT, so monitor EKG**
- **Can prescribe TID without federal licensing**



Buprenorphine

- No dose adjustment needed
- Not dialyzed
- Partial agonist: ceiling effect to respiratory depression
- Can be prescribed for pain, though there are barriers

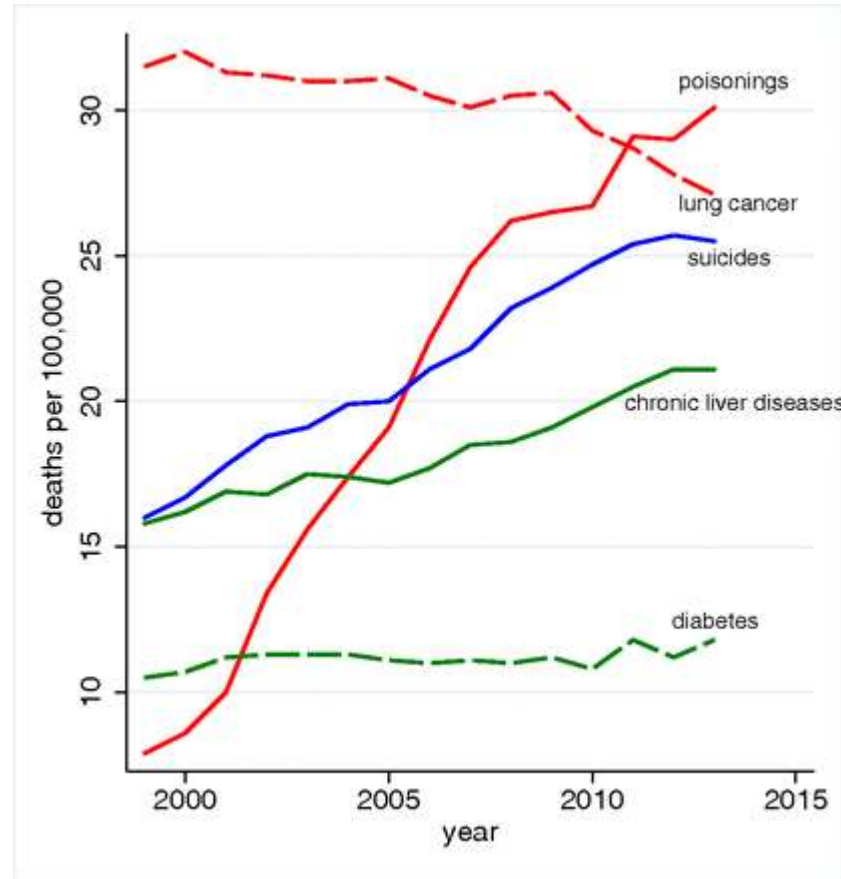
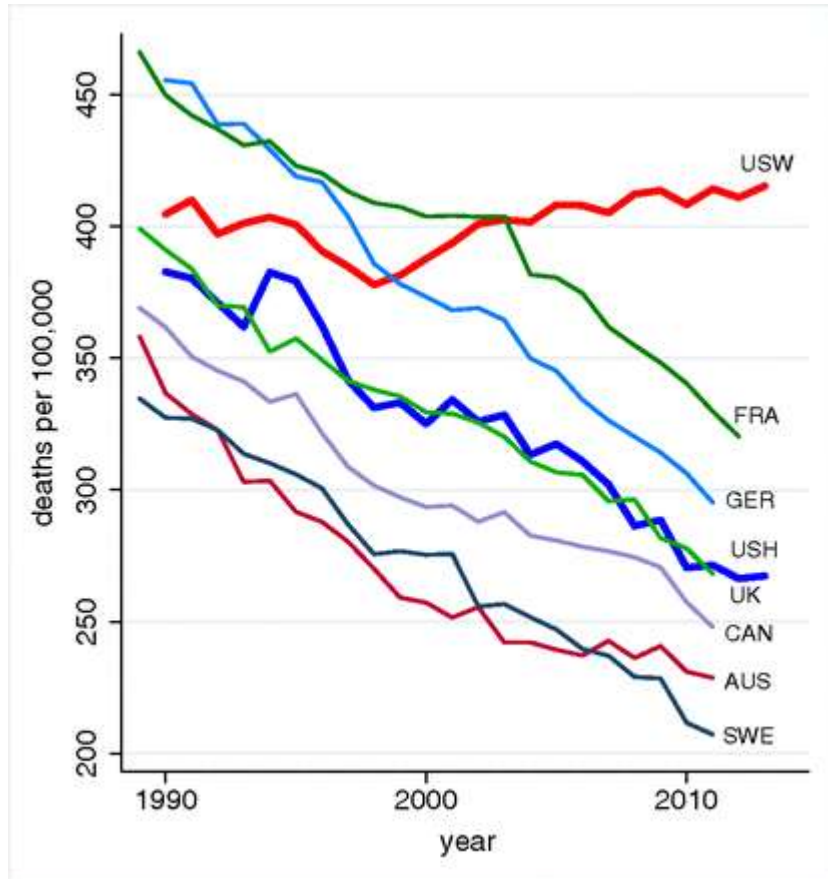


Why do we worry?

1. Mortality

a. Death rates from overdoses: 3,785 in 2000 to 100,306 in 2020

b. US non Hispanic white population deaths are up mostly to poisonings, suicide:



Case and Deaton, Proc Nat Acad Sci 2015

“comparable to lives lost in the US AIDS epidemic”

What are the Signs of Addiction?

Aberrant Drug-Related Behaviors

1. Lost/Stolen Prescriptions
2. Requesting early refills
3. Frequent ED visits/doctor shopping
4. UDS negative for prescribed substance
5. UDS positive for nonprescribed substance



How do we monitor these patients?

1. Contracts
2. UDS
3. PDMP
4. Random call backs



How do we monitor these patients?

1. Contracts

- Little evidence that they work
- CDC recommends
- Many states require
- *2010 Annals of Internal Medicine*
 - Opioid misuse only modestly reduced with contract
- Can be harmful
 - Should not be used as an excuse to “fire” patients
 - Destroys patient trust/therapeutic relationships



How do we monitor these patients?

1. Contracts

- Conclusions:
 - For the vast majority, the contracts don't change behavior.
 - Many patients don't know that they signed a contract
 - Low health literacy to understand the terms
 - More a form to protect liability



How do we monitor these patients?

2. UDS

- Critical to determine
 - Adherence
 - Other illicit use
 - Should be random
- Not used routinely in chronic pain offices or primary care!



How do we monitor these patients?

2. UDS

- De-stigmatize it!
- Should be routine monitoring
- What else we monitor:
 - Liver enzymes (statins, antibiotics)
 - EKGs (rx-rx interactions, angina)
 - INR (anticoagulation)
 - Colonoscopy (colon cancer)
 - Mammogram (breast cancer)
 - PSA (s/p prostatectomy for prostate cancer)



How do we monitor these patients?

2. UDS

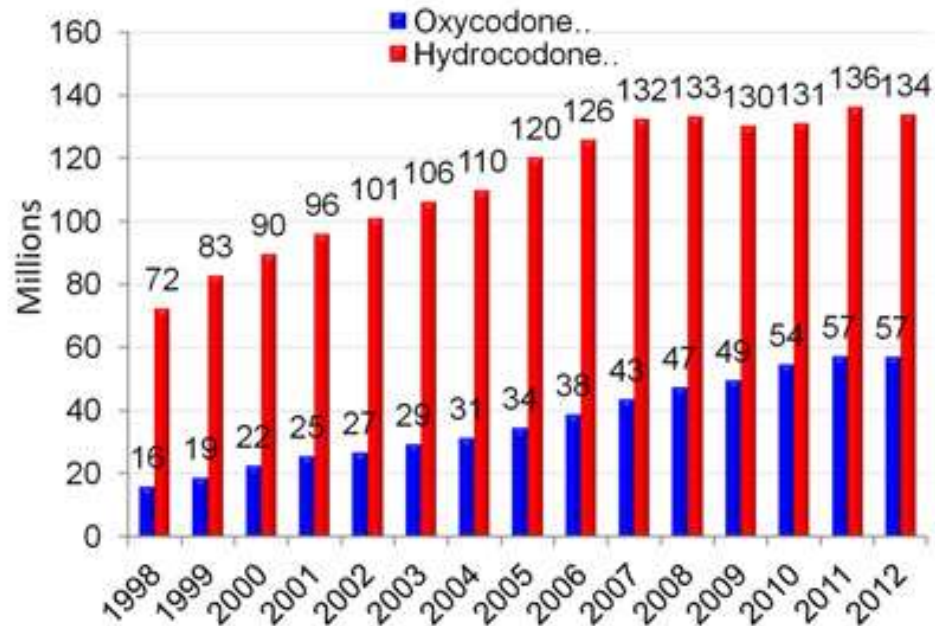
- Test what you are prescribing!
 - “opiates” does NOT include:
 - Methadone
 - Buprenorphine
 - Oxycodone
 - Fentanyl
- If using POC, know what can be a false positive
 - Lots of things cause false + for amphetamines, BZDs
 - Cocaine, opiates, NEVER false positive.
- Send it out to confirm with GC/MS, and CHECK METABOLITES



Monitoring adherence:

Opioid Prescriptions have Quadrupled since 1999

Oxycodone & Hydrocodone Prescriptions

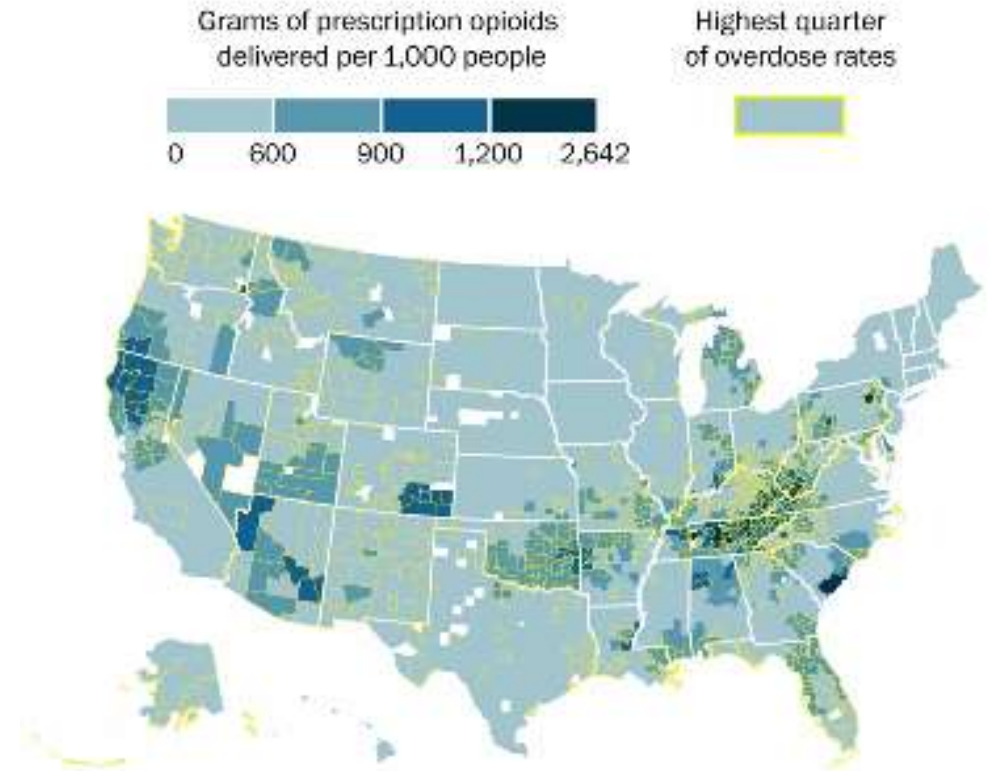


SDI Health, VONA_02-1-13_Opioids Schedule II & III

Slide courtesy of Nora Volkow, Director of NIDA, ASAM plenary, 2016

Where the most opioids are prescribed, the most drug overdoses happen

Counties with high prescription opioid rates tend to have high drug overdose rates — as seen in Appalachia, the California-Oregon border, Pennsylvania, Oklahoma and Arizona.



Sources: DEA, Centers for Disease Control and Prevention

THE WASHINGTON POST

How do we monitor these patients?

2. UDS

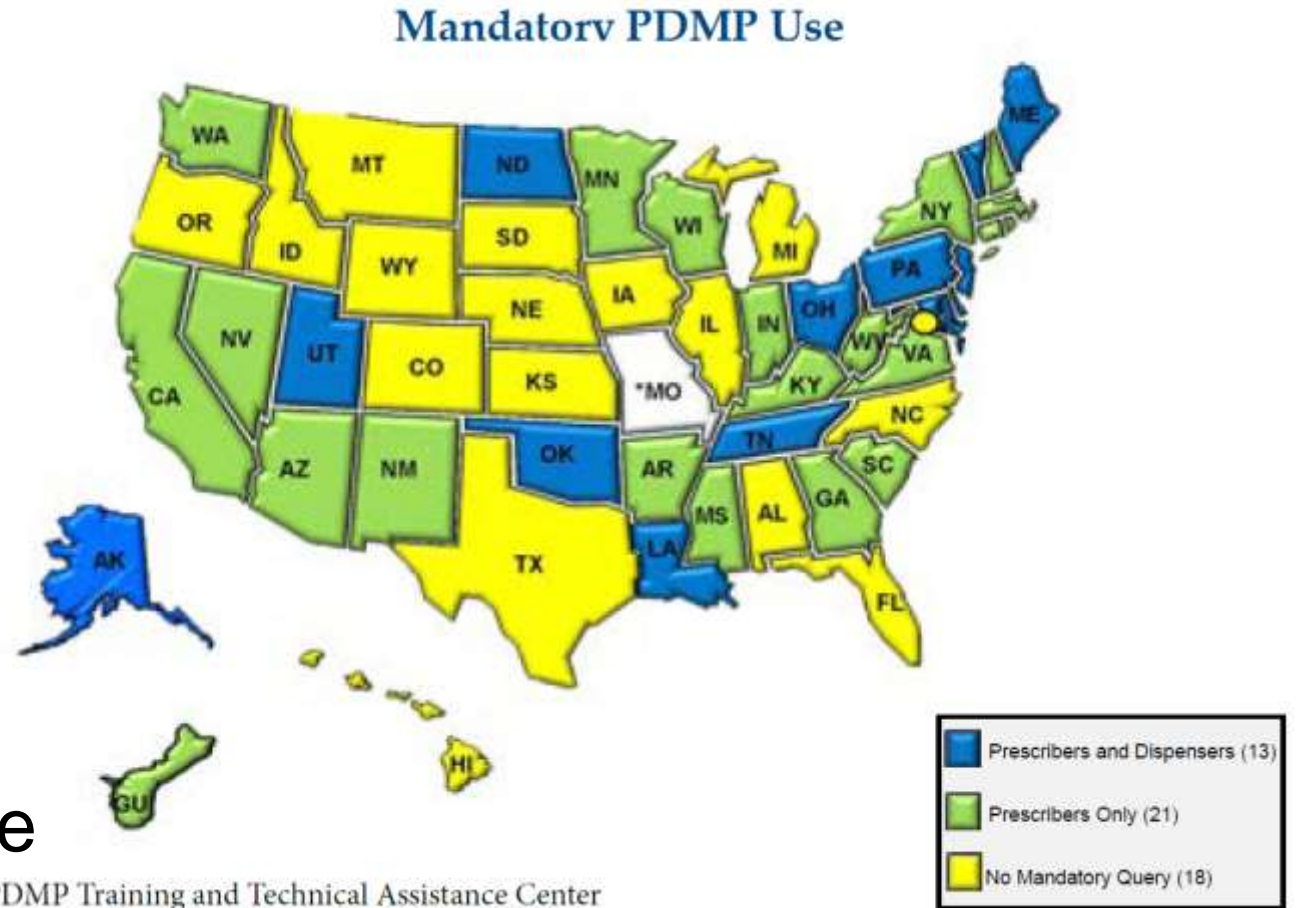
- Get a baseline on EVERYONE
 - Don't profile!
 - Explain it's for monitoring and patient safety
 - Compliance monitoring within 3 months
 - Maintenance every 6-12 months
- (Christo et al, Pain Physician 2011)*



How do we monitor these patients?

3. PDMP

- 50 states now have
- MUST be used
- 2014 study found 53% PCPs ever used, and less used regularly
- Some states have implemented mandates
- Pharmacy input varies in frequency by state: some daily, some weekly



How do we monitor these patients?

3. PDMP—WHEN MANDATED: EVIDENCE FOR USE

- Bao et al, 2016: 30% drop in opioid prescribing by provider
- Moyo et al, 2017: reduced prescribed opioid volume
- Wen et al 2017: 10% reduction in prescribing to medicaid enrollees
- Carey et al, 2017: Medicare enrollees who saw >5 doctors for Rx declined 8%
 - >5 pharmacies decreased 15%
 - >15% reduction in >4 new patient visits
 - **\$350M saved if all states mandated use**

How do we monitor these patients?

4. Random call backs



Pill counts: random and for EVERYONE
Don't profile!

What to do with patients showing signs of addiction?

- Don't "fire" them
- Send to an addictions provider who can make sure they are getting counseling and MOUD

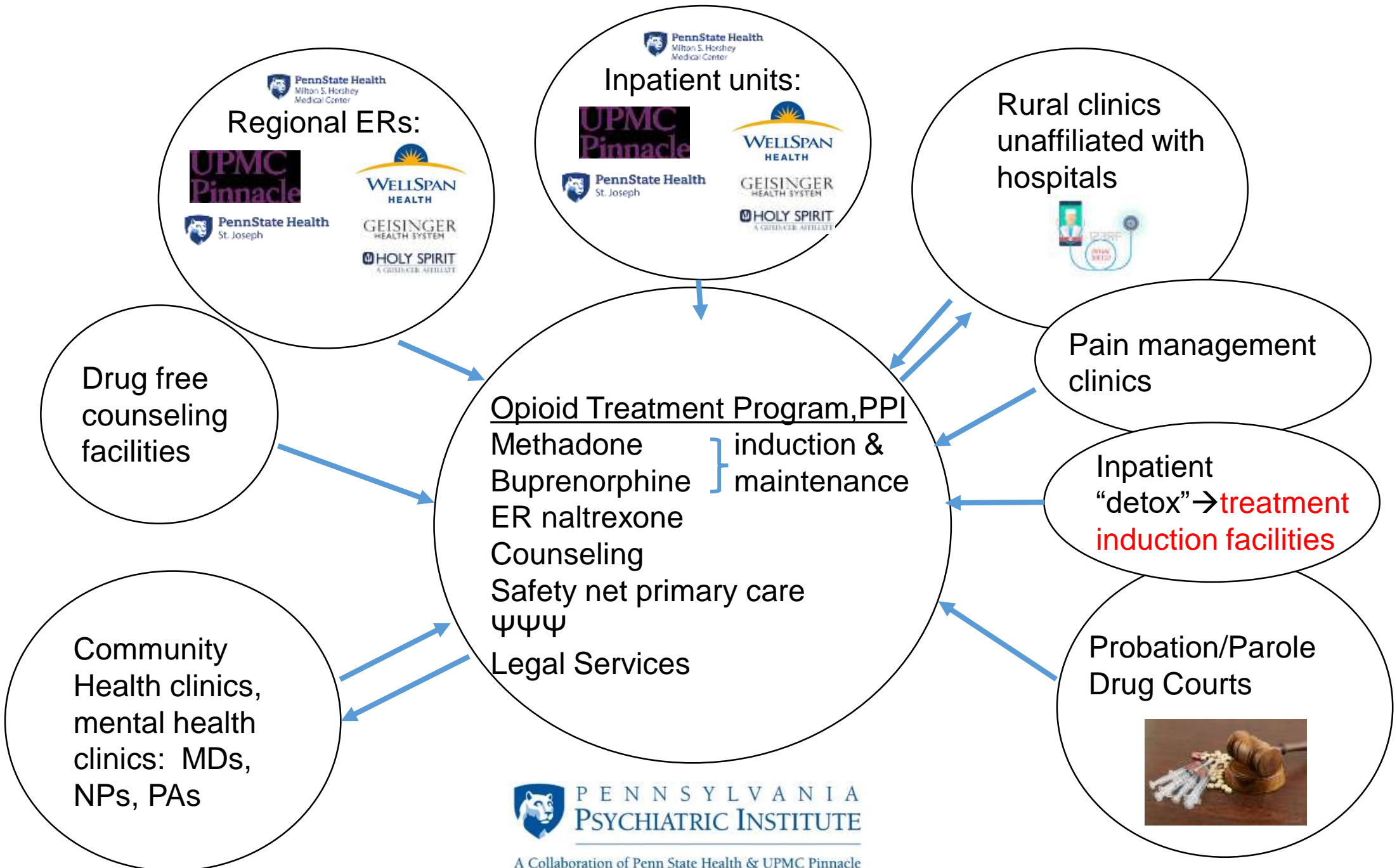
What to do with patients showing signs of addiction?

- Don't "fire" them
- Send to an addictions provider who can make sure they are getting counseling and MOUD

OR

- Certify in MOUD
 - <https://pcssnow.org/education-training/mat-training/>





Thank you

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References:

- Mercadante S, Ferrantelli A, Tortorici C, et al. Incidence of Chronic Pain in Patients with End-Stage Renal Disease on Dialysis. *J Pain Symptom Manage* [Internet]. 2005 10;30(4):302–4.
- Davison SN. Clinical Pharmacology Considerations in Pain Management in Patients with Advanced Kidney Failure. *Clin J Am Soc Nephrol* [Internet]. 2019;14(6):917–31.
- Davison SN, Jhangri GS. Impact of Pain and Symptom Burden on the Health-Related Quality of Life of Hemodialysis Patients. *J Pain Symptom Manage* [Internet]. 2010 3;39(3):477–85.
- Harris TJ, Nazir R, Khetpal P, et al. Pain, sleep disturbance and survival in hemodialysis patients. *Nephrol Dial Transplant* [Internet]. 2012 2 1;27(2):758–65.
- Weisbord SD, Mor MK, Sevick MA, et al. Associations of Depressive Symptoms and Pain with Dialysis Adherence, Health Resource Utilization, and Mortality in Patients Receiving Chronic Hemodialysis. *Clin J Am Soc Nephrol* [Internet]. 2014 9 5
- Daubresse M, Alexander GC, Crews DC, et al. Trends in Opioid Prescribing Among Hemodialysis Patients, 2007-2014. *Am J Nephrol* [Internet]. 2019;49(1):20–31.
- Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain— United States, 2016. *JAMA* [Internet]. 2016 4 19;315(15):1624
- Kimmel PL, Fwu C-W, Abbott KC, et al. Opioid Prescription, Morbidity, and Mortality in United States Dialysis Patients. *J Am Soc Nephrol* [Internet]. 2017 12 1;28(12):3658 LP–3670.

References:

- Ishida JH, McCulloch CE, Steinman MA, et al. Opioid Analgesics and Adverse Outcomes among Hemodialysis Patients. *Clin J Am Soc Nephrol* [Internet]. 2018 5 7;13(5):746–53.
- Vangala C, Niu J, Montez-Rath ME, et al. Hip Fracture Risk among Hemodialysis-Dependent Patients Prescribed Opioids and Gabapentinoids. *J Am Soc Nephrol* [Internet]. 2020 5 5;ASN.2019090904.
- Zhan M, Doerfler RM, Xie D, et al. Association of Opioids and Nonsteroidal Anti-inflammatory Drugs With Outcomes in CKD: Findings From the CRIC (Chronic Renal Insufficiency Cohort) Study. *Am J Kidney Dis* [Internet]. 2020 4
- Painter P, Carlson L, Carey S, et al. Physical functioning and health-related quality-of-life changes with exercise training in hemodialysis patients. *Am J Kidney Dis* [Internet]. 2000 3;35(3):482–92.
- Yurtkuran M, Alp A, Yurtkuran M, et al. A modified yoga-based exercise program in hemodialysis patients: A randomized controlled study. *Complement Ther Med* [Internet]. 2007 9;15(3):164–71.
- Bullen A, Awdishu L, Lester W, et al. Effect of Acupuncture or Massage on Health-Related Quality of Life of Hemodialysis Patients. *J Altern Complement Med* [Internet]. 2018 11;24(11):1069–75.
- Kim KH, Lee MS, Kim T-H, et al. Acupuncture and related interventions for symptoms of chronic kidney disease. *Cochrane Database Syst Rev* [Internet]. 2016 6 28